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The graviton soft-wall model and the descriptions of mesons and exotic states

Monday, 8 July 2024 17:35 (20 minutes)

In this talk I will present the main predictions of the holographic graviton soft-wall model (GSW). In particular, I will discuss the properties of mesons, glueballs and, recently, hybrids. This model relies on a semi-classic approximation of non perturbative QCD. Within this approach, QCD fields are described via their duals propagating in a modified space, with respect to the usual AdS5. For glueballs, the main outcome of our analysis is that the corresponding spectra are described by linear trajectories has expected from lattice QCD. Our prediction for the ground state mass is comparable with that addressed same years later in Ref. [2]. Moreover, this model is capable to describe quite well the
spectra of scalar mesons, the ρ and a1 vectors [3, 4]. Moreover, in Ref. [6] we propose a modification of the model to properly describe chiral symmetry breaking beyond the inner structure of the pion. Finally, in Ref. [7] also the hybrid spectra have been evaluated. In conclusion, a good description of several observables is remarkably provided with only few not flexible parameters.

References

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session

C. Hadron Structure

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